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Control of Azomethine Cycloaddition Stereochemistry by CF3 Group: Structural Diversity of Fluorinated β-Proline Dimers

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Abstract

© 2016 American Chemical Society.β-Proline-functionalized dimers consisting of homochiral monomeric units were synthesized by a non-peptidic coupling method for the first time. The applied synthetic methodology is based on 1,3-dipolar cycloaddition chemistry of azomethine ylides and provides absolute control over the β-proline backbone stereogenic centers. An o-(trifluoromethyl)phenyl substituent contributes to appropriate stabilization of the definite acrylamide chiral cis conformation and to achieve the dipole reactivity that is not observed for aryl groups lacking strong electronegative character.

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